

# EXHIBIT 3



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Attorneys for Defendant, EXXON MOBIL  
 CORPORATION, successor by merger to Exxon  
 Corporation and Mobil Oil Corporation

SUPERIOR COURT OF CALIFORNIA  
 COUNTY OF ORANGE, CENTRAL JUSTICE CENTER

CITY OF SANTA MONICA,

Plaintiff,

v.

SHELL OIL COMPANY; SHELL OIL  
 PRODUCTS COMPANY; SHELL  
 PIPELINE CORPORATION; CHEVRON  
 CORPORATION; CHEVRON U.S.A.  
 INC.; CHEVRON PRODUCTS  
 COMPANY; ATLANTIC RICHFIELD  
 COMPANY; MOBIL OIL  
 CORPORATION; EXXONMOBIL  
 CORPORATION; TOSCO  
 CORPORATION; ULTRAMAR INC.;  
 TEXACO REFINING AND  
 MARKETING INC.; EQUILON  
 ENTERPRISES LLC; ARCO CHEMICAL  
 COMPANY; LYONDELL CHEMICAL  
 COMPANY; EXXON CORPORATION;  
 UNOCAL CORPORATION; EQUILON  
 PIPELINE COMPANY LLC; and DOES 1  
 through 600, inclusive,

Defendants.

AND OTHER CROSS-COMPLAINTS,

Case No. 01CC04331

Assigned to: The Hon. Honorable Stephen  
 J. Sundvold

**DECLARATION OF BARBARA  
 MICKELSON IN SUPPORT OF  
 MOTION FOR DETERMINATION OF  
 GOOD FAITH SETTLEMENT [CCP §  
 877.6]**

[Complaint Filed: June 19, 2000]

Trial Date: None Set

Date: December 19, 2003

Time: 9:30 a.m.

Dept.: CX-105



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I, Barbara J. Mickelson, declare as follows:

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1. I am the President of Acton • Mickelson • Environmental, Inc. (AME) an  
2 environmental engineering consulting firm I founded in 1991 to serve the needs of industrial and  
3 financial clients in managing the environmental risks of their operations and properties. AME  
4 has completed significant environmental projects covering the spectrum of site investigation,  
5 assessment, remediation, maintenance, and closure. I make this Declaration in support of the  
6 motion of Shell Oil Company, Shell Oil Products Company Shell Pipeline Company, Equilon  
7 Enterprises LLC, Equilon Pipeline Company, Texaco Refining & Marketing, Inc., ExxonMobil  
8 Corporation, Chevron U.S.A. Inc., ChevronTexaco Corporation, Thrifty Oil Co., and Best  
9 California Gas Ltd (hereinafter collectively the "Settling Defendants") for determination of good  
10 faith settlement. The statements below are based on my personal knowledge, and if called upon  
11 to testify to them, I could and would competently do so.

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2. I have worked on petroleum hydrocarbon remediation and clean-up  
3 projects, including treatment of impacted ground water for use as drinking water, for  
4 approximately 23 years. My educational and professional background is set forth in my  
5 Curriculum Vitae, a copy of which is attached to this Declaration and incorporated by reference.

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3. I have implemented and managed several investigation and remediation  
4 projects in California involving the oxygenate Methyl Tertiary Butyl Ether (MTBE) including:  
5 A) project manager for investigation of MTBE contamination at a retail gasoline service station;  
6 and B) as part of a regional assessment of impacts to a major southern California well field. In  
7 the latter capacity, I provided oversight for regional assessment activities, which included a  
8 basin-wide ground water flow model.



1           4. My experience also includes conducting ground water monitoring  
2 including depth-specific sampling of three municipal supply wells at the San Gabriel Superfund  
3 site and coordinating preliminary design of a packed column air stripping facility for remediation  
4 of trichloroethylene (TCE) impacted water for the U. S. Army Corps of Engineers. I also  
5 coordinated emergency installation of systems at 9 locations serving 22 residences to remove  
6 TCE and supervised the installation of two air stripping systems at a site in Central California to  
7 remove TCE from ground water to allow it to be used for both domestic and irrigation purposes.

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9           5. I have been designated as an expert and provided litigation support and  
10 expert testimony in jurisdictions in Arizona, California, Nevada, Colorado, Delaware, Maryland,  
11 Texas, Virginia, West Virginia and the U. S. Virgin Islands.

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13           6. My firm was retained to evaluate methodologies to remediate water  
14 produced from the Charnock well field and to provide treatment of the extracted ground water so  
15 that the City of Santa Monica (COSM) could use it as drinking water. My engagement included  
16 developing methodologies to accomplish water treatment to meet the following goals: A) remove  
17 MTBE and Tertiary Butyl Alcohol (TBA) from the aquifer to a level below currently established  
18 drinking water standards, and B) develop a physical chemical process to be utilized for TBA  
19 removal.

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21           7. After evaluation of treatment processes including air stripping, granular  
22 activated carbon (GAC) adsorption, resin adsorption, and advanced oxidation certain treatment  
23 processes were not carried forward. Air stripping was eliminated because of height and noise  
24 restrictions at the COSM Arcadia site. Carbonaceous resin was eliminated because the  
25 manufacturer (Rohm and Haas) had ceased production as well as concerns with resin  
26 regeneration and condensate handling. GAC was feasible for MTBE, but was considered  
27 ineffective for TBA due to poor adsorption properties. The principal methods selected therefore  
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1 included an advanced oxidation process (AOP) and GAC. Potential AOP technologies evaluated  
2 included UV/peroxide and ozone/peroxide. The UV/peroxide process had already been pilot  
3 tested by Kennedy/Jenks in 1998-99 at the Charnock site and excessive energy consumption,  
4 lamp scaling, and mercury release upon lamp breakage were experienced. Ozone/peroxide AOP  
5 was selected because the process had the advantages of no UV lamp issues, had variable output  
6 capability (i.e., chemical oxidant dosage could be fed only as needed by contaminant influent  
7 concentrations), and at least one manufacturer advertised a proprietary design capable of  
8 minimizing bromate formation.

10 8. The treatment elements were configured in two processes or "Trains".  
11 The first involved GAC elements preceding and following the AOP element (Train 1: GAC-  
12 AOP-GAC); the second included an AOP element first followed by two GAC elements (Train 2:  
13 AOP-GAC-GAC).

14 9. Preliminary costs were developed based on the two process configurations  
15 utilizing either US Filters or Calgon supplied GAC and vessels. Additionally, costs developed  
16 by Komex for the COSM were used for ancillary treatment components including the pipeline  
17 from Charnock and a treated water reservoir at Arcadia.

18 10. The costs assumed the design phase would include pilot testing of each of  
19 the process configurations and GAC from each supplier, Calgon and US Filters, at varied  
20 concentrations of TBA and MTBE. The cost estimates developed assumed that the MTBE/TBA  
21 treatment facility would be constructed at the existing COSM Arcadia treatment facility and that  
22 the MTBE/TBA treatment facility would have a 7,000-gallon per minute treatment capacity.  
23 The cost for each treatment Train varies significantly based on GAC sizing parameters (empty  
24 bed contact time and hydraulic loading rate) recommended by the GAC suppliers. The final  
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1 costs presented herein are based on US Filters GAC pricing as they were considered to be more  
2 conservative for use in a preliminary estimate. The final capital cost estimates were as follows:

**3 Train 1 (GAC – AOP – GAC): \$78.3 million**

4 Train 2 (AOP – GAC-GAC): \$73.9 million

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11. Operation and Maintenance (O&M) costs for the facility included costs of chemicals, electrical power, operating manpower and laboratory expenses. These function of the expected influent contaminant concentrations, which were assumed 9 ug/L MTBE and 30 ug/L TBA. The present value of predicted O&M costs was for an assumed 10-year operational period. Results are:

**11** Train 1 (GAC – AQP – GAC): \$ 10.9 million

**12** Train 2 (AOP – GAC-GAC) \$ 12.0 million

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12. The total present value costs for each Train are as follows:

17 Train 1 (GAC - AQP - GAC): \$ 89.2 million

16 Train 2 (AQP - GAC-GAC) \$ 85.0 million

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18 included a capital cost estimating technique (the "Lang method,") as originally published in  
19 Chemical Engineering magazine, 1947-48 and as exemplified in "Cost Estimation: Capital Costs  
20 and Operating Expenses," Chemical Engineering-McGraw-Hill seminar, 1982. The Lang  
21 method is reported to have an accuracy of +/- 30 percent, which corresponds to a "study"  
22 estimate. More definitive estimates require more design information than is available until the  
23 pilot testing referred to above (paragraph 10) is completed. The initial estimating process  
24 involves multiplying delivered process equipment costs by a factor (3.1 to 4.74, depending on  
25 plant type - solids, solid-fluid, or fluid). The actual Lang factor utilized in the Charnock estimate  
26 was increased by 15 percent to account for the known tendency of the Lang Method to  
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1 underestimate by this amount. The total capital cost estimate was further increased by 30 percent  
2 (i.e., the study estimate accuracy range) as a contingency factor to arrive at a conservative  
3 facility cost. Process equipment costs were obtained from equipment vendors. GAC costs were  
4 obtained from both Calgon Carbon and USFilter. AOP system costs were obtained from APT  
5 Inc. Delivered equipment costs for use in the Lang Method were obtained by multiplying  
6 equipment costs by 1.14 to account for tax and freight.  
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8               14. Operations and maintenance costs included a variable portion (GAC, AOP  
9 chemicals, and AOP power) affected by contaminant influent concentrations and a fixed portion  
10 (maintenance, analytical, etc.) Variable costs were estimated at three step influent MTBE/TBA  
11 concentrations (3/3, 100/10, and 300/30). The GAC vendors estimated activated carbon  
12 consumption. These predicted values were further increased by 15 percent to account for the  
13 expected presence of TBA. AOP chemical consumption (peroxide and oxygen) and electrical  
14 power were provided by APT, Inc. Other electrical power costs (for transfer pumps) were  
15 estimated by the required flow rate and estimated differential head. An electrical utility cost of  
16 \$0.05/kWh was obtained for the site from the Los Angeles Department of Water and Power.  
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18               15. The O&M costs for the three step influent concentrations were fit to a  
19 mathematical curve, which was used to predict costs for the variable influent concentrations  
20 expected over years 1 through 10. The present value of the 10-year O&M costs was calculated  
21 by compound interest formulas incorporating an interest rate of 5 percent.  
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23               16. Cost estimates were compared to reference materials including the  
24 publication "Treatment Technologies for Removal of MTBE from Drinking Water" (the  
25 California MTBE Research Partnership, February, 2000) and the evaluation prepared by  
26 Kennedy/Jenks for the PRP consortium. GAC consumption rates as estimated by the GAC  
27 vendors were further compared with values depicted in "Treating MTBE-Impacted Drinking  
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1 Water Using Granular Activated Carbon," (The California MTBE Research Partnership,  
2 December 2001).

3                   17. Shell proposes the use of an Adsorption-only GAC-based process, which  
4 would eliminate AOP and utilize GAC for removal of both MTBE and TBA. In this scenario,  
5 the number of GAC adsorber vessels would be approximately the same as the GAC/AOP  
6 processes because the sizing guidelines are based on hydraulic loading (i.e., flow rate) and not  
7 influent concentration. However, the GAC consumption portion of the O&M costs would  
8 increase because TBA is only poorly adsorbed to GAC. The cost estimates varied significantly  
9 based on different GAC sizing parameters used for different types of GAC (bituminous F600 vs.  
10 coconut shell). The final costs presented herein are based on US Filters GAC pricing as they  
11 were considered to be more conservative for use in a preliminary estimate. An order of  
12 magnitude cost estimate for an adsorption only treatment facility is:  
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14                   Capital cost: \$66.3 million

15                   18. The O&M costs for an adsorption-only treatment facility were estimated  
16 by modifying the present value costs developed previously for GAC/AOP processes. The  
17 assumed GAC consumption is 10 times that based on MTBE adsorption, and any costs  
18 associated with AOP (peroxide, oxygen, AOP power) were deleted. Results:  
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20                   Adsorption (GAC – GAC): \$ 36.5 million

21                   19. The total present value cost for an adsorption-only treatment facility is:

22                   Adsorption (GAC-GAC): \$ 102.8 million

23                   20. The average present value cost including capital and O&M of the three  
24 treatment processes estimated and presented herein is \$92.6 million.  
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1 I declare under penalty of perjury pursuant to the laws of the State of California that the  
2 foregoing is true and correct. Executed on December 1, 2003, at El Dorado Hills, California.  
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A handwritten signature in black ink, appearing to read "Barbara J. Mickelson".

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9 BARBARA J. MICKELSON, P.E.  
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• **BARBARA J. MICKELSON, P.E.**

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### **Summary of Professional Experience**

Barbara Mickelson is a Registered Professional Engineer in California, Texas, and Wyoming, and has over 25 years of experience specializing in the following:

- Assessment of petroleum hydrocarbon impacts to soil and ground water
- Analysis of environmental risks associated with organic and inorganic substances and planning for appropriate remediation and mitigation
- Mining project permitting with respect to water quality and quantity, geomorphology, dam and embankment design and engineering, and design of alternate sediment and runoff control facilities
- Water and wastewater treatment systems for municipal, industrial, and chemical manufacture, and petroleum refining processes
- Expert witness testimony

### **Education and Professional Development**

- B.S., Civil Engineering - South Dakota School of Mines and Technology, 1976
- OSHA 40-Hour Training for Hazardous Waste Operations
- OSHA Health and Safety Training for Supervisors of Hazardous Waste Workers

### **Registrations and Professional Affiliations**

- Professional Engineer - California, Texas, and Wyoming
- American Society of Civil Engineers
- National Water Well Association
- Association of Groundwater Scientists and Engineers

### **Representative Experience**

#### Evaluation and Remediation of Petroleum Hydrocarbons

- Project manager for investigation of MTBE contamination at a retail gasoline service station as part of a regional assessment of impacts to a major southern California well field. Provided oversight for client of regional assessment activities, which included a basin-wide ground water flow model.
- Project manager for litigation support involving manufacturing facilities. Completed ground water and vadose zone modeling studies of fate and transport of chlorinated solvents to explain the source of the chemicals and/or evaluate potential future impacts and the necessity for remediation. Demonstrated that contaminant sources at several sites did not present a significant risk.
- Project manager for litigation support involving a retail gasoline service station. Completed ground water modeling studies of fate and transport of gasoline constituents for the estimation of the probable date of release and evaluation of general cleanup scenarios. Responsible for soil and ground water sampling, aquifer testing, and general facility inspection. Analyzed local geology and hydrogeology, evaluated soil and ground water quality data, and rendered interpretation of the nature, extent, and potential source(s) of subsurface petroleum contamination.



- Coordinated investigation and mitigation of environmental incidents related to underground gasoline storage system operation at over 300 sites in the Eastern United States and California.
- Served on U.S. Air Force technical panel on bioremediation of hydrocarbon contaminated sites to evaluate emerging technologies and research needs for effective remediation.
- Managed and permitted the installation and operation of remedial systems for ground water and soil contamination. Supervised installation of remediation systems, including ground water recovery and treatment and soil vapor extraction and treatment.

Investigations completed included product source identification, ground water quality characterization and assessment, ground water modeling (vadose zone and saturated zone), modeling and evaluation of differential transport of contaminants, and risk assessments.

- Prepared final environmental impact assessment in satisfaction of RCRA 7003 Consent Order issued by EPA Region I. Coordinated a cooperative oil company (Exxon, Gulf/Chevron, Amoco) aquifer evaluation and monitoring program required by EPA Region III, in Jacksonville, Maryland. RCRA 3013 cooperative monitoring program included monitoring well construction, aquifer pump testing, and soil and ground water sampling and analyses.
- Provided expert witness testimony in support of underground storage tank related environmental litigation in Maryland, Delaware, California, Arizona, and the U.S. Virgin Islands. Provided environmental testimony at numerous hearings and negotiations with environmental compliance agencies in Delaware, Maryland, Pennsylvania, Virginia, West Virginia, California, and Nevada.
- Coordinated precision testing program of underground product storage systems at over 15 retail sites in Guam, under contract to ESSO Eastern and the government of Guam, in satisfaction of Guam EPA requirements.

#### Remedial Investigation/Feasibility Studies

- Project coordinator for the investigation of areas of concern identified to be impacted by contaminants associated with former ordnance manufacturing operations. Contaminants of concern included volatile and semivolatile organics, metals and explosives. Perchlorate was detected in ground water and surface water at the site. Nitrosodimethylamine (NDMA) a potential breakdown product of the explosives HMX and RDX was also detected in ground water at the site. The investigation of the occurrence and extent of the perchlorate and NDMA in ground water included depth specific sampling using innovative sampling equipment and traditional multi-depth monitoring well clusters. Coordinated a testing program of both onsite and offsite monitoring and production wells to identify wells impacted by perchlorate following the California Department of Health Services development of testing methods for low level perchlorate analyses in water samples.
- Project Coordinator for preparation of a remedial investigation/feasibility study (RI/FS) work plan for a 1,000-acre former ordnance facility in Santa Clarita. The RI/FS work plan includes a prior Site Investigation Report, a Remedial Investigation Work Plan, a Project Management Plan, a Communication and Coordination Plan, and a Public Participation Plan. Field activities to assess/remediate the site include geophysical surveys, soil gas surveys, soil borings, exploratory trenches, and shallow soil sampling.
- Project Manager for design of a water treatment system for the San Gabriel Valley Areas 1, 2, and 4 Superfund sites (Bartolo Wellfield) in Los Angeles County, California, under contract to the U.S. Army Corps of Engineers. The treatment plant design incorporated treatment of water containing VOCs by packed column air stripping and off-gas treatment with activated carbon to remove airborne VOCs.

- Project Manager responsible for remedial investigation and feasibility study of six sites at Air Force Plant 42, Palmdale, California, as part of the Air Force Installation Restoration Program (IRP) to define the magnitude, extent, direction, and rate of migration of identified constituents of concern within the soil column as well as to evaluate the magnitude of any volatile emissions from the impacted areas. Remedial investigation data were evaluated to identify and screen potential technologies and to assemble alternatives for remediation of impacted areas. Each of the alternatives was evaluated against identified ARARs and TBCs and criteria of (1) effectiveness, (2) implementability, and (3) cost.
- Managed soil vapor assessments performed in support of IRP Phase I Remedial Investigations at Edwards Air Force Base, Lancaster, California, and Plant 42, Palmdale, California. Over 300 vapor points were installed and evaluated for petroleum (jet fuel) related hydrocarbons and chlorinated organic compounds.

#### **Hazardous Waste Site Remediation**

- Project Engineer responsible for closure of an explosive burn area. The former explosive waste burn area was excavated and residual soil metals concentrations statistically compared to background for three different soil types. The area received acknowledgment of clean closure from the California Environmental Protection Agency.
- Engineer responsible for oversight of design, installation, and operation of 500 and 600 gallon per minute air strippers and residential carbon activated carbon systems for treatment of TCE impacted ground water used for irrigation and drinking water. Responsible engineer for design and oversight of installation of activated carbon treatment systems at an active ordnance manufacturing facility.

Project Director responsible for over 35 tasks associated with obtaining closure of five former RCRA units at a 1,000-acre former ordnance facility in Santa Clarita, California, including routine NPDES permitting, quarterly ground water monitoring, and vacuum extraction system monitoring. Activities in support of closure include excavation and statistical evaluation of metals contaminated propellant burn areas, hydrogeologic assessment of a phosphorus-stabilizing lagoon, and ongoing remediation system operations support. One of the remediation technologies being utilized at this site is a state-of-the-art TCE dual-stage, fixed-bed catalytic oxidizer, with batch scrubbing.

#### Wastewater Treatment

- Environmental engineer responsible for technical support and operating supervision of 13 million gallon per day (mgd) chemical plant waste treatment facility and bio-solids incinerator. Selected and designed treatment schemes for final clarification, sludge thickening, and belt filtration dewatering. Designed and implemented upgraded polymer blending facility.
- Responsible for preparation of selected unit operations manuals, operator training, and on-shift supervision during start-up of a 7 mgd refinery waste treatment plant. Designed and implemented operability modifications and enhancements to the effluent treatment system. Following successful start-up of the effluent treatment system, monitored kinetics of the biological system, set clarifier recycle, and waste rates and nutrient and polymer feed rates to optimize treater performance.

#### Water Quality Management

- Responsible for evaluation of surface water and ground water data from mining properties in Wyoming, Arkansas, and Texas. Supervised mine-site hydrologic and geomorphic data collection and evaluation for compliance with state and federal permits. Designed and secured permits for sedimentation ponds, diversion ditches, and alternate sediment control structures in Wyoming and Arkansas. Developed pre-mining geomorphic baseline data for three Wyoming mining properties for use in development of predicted geomorphically stable post mining topographies.



## Publications

Jones, M. K., Mickelson, B. J., Chamseddin, H. K., and L. R. Freeberg. 1990. "A Practical Application for Unsaturated Zone Fate and Transport Modeling Using SESOIL for Risk Assessments at Fuel-Contaminated Sites." Presented at NWWA Fourth National Outdoor Action Conference.

Henry, D. K., Mickelson, B. J., and D. Ohnstad. 1990. "Well Logging and Depth Specific Sampling in a Producing Water Supply Well as an Aid in Identifying Contaminant Stratification." Presented at NWWA Fourth National Outdoor Action Conference.